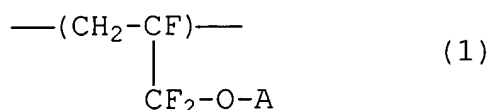


**AMENDMENTS TO THE CLAIMS**

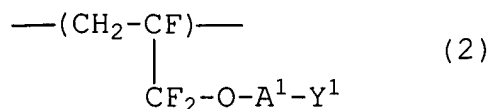
This listing of claims will replace all prior versions, and listings, of claims in the present application.

**Listing of Claims:**

1. (**Currently Amended**) A fluorine-containing allyl ether polymer having a number average molecular weight of 1,000 to 1,000,000 and consisting of chains of at least one repeating unit selected from the group consisting essentially of a repeating unit of the formula:



wherein A is alkyl or fluoroalkyl groups having 1 to 50 carbon atoms, alkenyl or fluoroalkenyl groups having 2 to 50 carbon atoms, alkynyl or fluoroalkynyl groups having 2 to 50 carbon atoms, alkyl or fluoroalkyl groups having an ether bond and 1 to 60 carbon atoms, alkenyl or fluoroalkenyl groups having an ether bond and 2 to 60 carbon atoms, alkynyl or fluoroalkynyl groups having an ether bond and 2 to 60 carbon atoms, aryl or fluoroaryl groups having 4 to 30 carbon atoms, and a repeating unit of the formula:

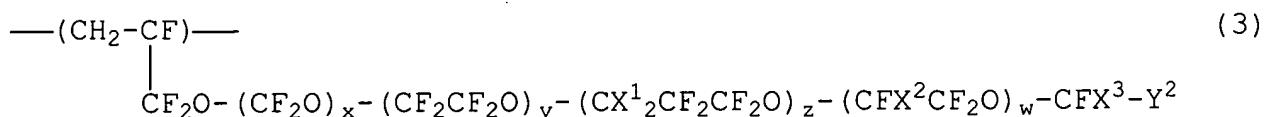


wherein A<sup>1</sup> is a divalent organic group having 1 to 60 carbon atoms, and Y<sup>1</sup> is ~~CH<sub>2</sub>OH, COOH, COOR<sup>1</sup> in which R<sup>1</sup> is a hydrocarbon group having 1 to~~

~~20 carbon atoms,~~ 
$$-\text{CON} \begin{matrix} \nearrow \text{R}^2 \\ \searrow \text{R}^3 \end{matrix}$$
 in which  $\text{R}^2$  and  $\text{R}^3$  are the same or different and a hydrogen atom or a hydrocarbon group having 1 to 20 carbon atoms,  $-\text{O}-\text{CF}=\text{CF}_2$ , or  $-\text{OCO}-\text{CZ}^3=\text{CZ}^1\text{Z}^2$  in which  $\text{Z}^1$  and  $\text{Z}^2$  are the same or different and a hydrogen atom or a fluorine atom, and  $\text{Z}^3$  is a hydrogen atom, a fluorine atom, a chlorine atom or a trifluoromethyl group.

2. (**Previously Presented**) The fluorine-containing allyl ether polymer according to claim 1, wherein  $\text{A}^1$  in the formula (2) is a fluoroalkylene group having 1 to 60 carbon atoms or a fluoroalkylene group having an ether bond and 1 to 60 carbon atoms.

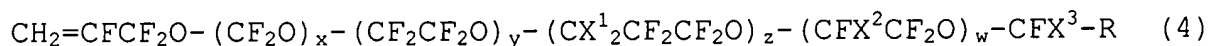
3. (**Currently Amended**) The fluorine-containing allyl ether polymer according to claim 1, wherein at least one of the repeating units is a repeating unit of the formula:



wherein  $\text{X}^1$  is a hydrogen atom, a fluorine atom or a chlorine atom,  $\text{X}^2$  is a hydrogen atom, a chlorine atom, a methyl group or a trifluoromethyl group,  $\text{X}^3$  is a hydrogen atom, a fluorine atom, a chlorine atom or a trifluoromethyl group,  $x$ ,  $y$ ,  $z$  and  $w$  are the same or different and a number of 0 to 20 provided that the sum of  $x$ ,  $y$ ,  $z$  and  $w$  is from 1 to 20, and  $\text{Y}^2$  is  ~~$-\text{COOH}$ ,  $-\text{COOR}^4$  in which  $\text{R}^4$  is a hydrocarbon group having 1~~

to ~~20 carbon atoms,  $\text{CH}_2\text{OH}$ ,~~  $\text{-CON} \begin{matrix} \text{R}^5 \\ \text{R}^6 \end{matrix}$  in which  $\text{R}^5$  and  $\text{R}^6$  are the same or different and a hydrogen atom or a hydrocarbon group having 1 to 20 carbon atoms,  $\text{-O-CF=CF}_2$ , or  $\text{-OCO-CZ}^6=\text{CZ}^4\text{Z}^5$  in which  $\text{Z}^4$  and  $\text{Z}^5$  are the same or different and a hydrogen atom or a fluorine atom, and  $\text{Z}^6$  is a hydrogen atom, a fluorine atom, a chlorine atom or a trifluoromethyl group.

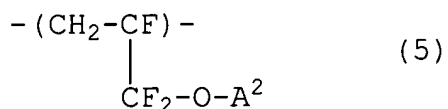
4. (**Currently Amended**) A homopolymer consisting of a fluorine-containing allyl ether polymer represented by the formula:



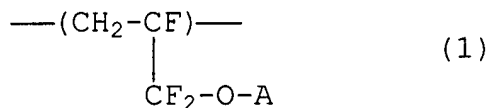
wherein  $\text{X}^1$  is a hydrogen atom, a fluorine atom or a chlorine atom,  $\text{X}^2$  is a hydrogen atom, a chlorine atom, a methyl group or a trifluoromethyl group,  $\text{X}^3$  is a hydrogen atom, a fluorine atom, a chlorine atom or a trifluoromethyl group,  $x$ ,  $y$ ,  $z$  and  $w$  are the same or different and a number of 0 to 20 provided that the sum of  $x$ ,  $y$ ,  $z$  and  $w$  is from 1 to 20, and  $\text{R}$  is  ~~$\text{-COOH}$ ,  $\text{-COOR}^1$  in which  $\text{R}^1$  is a hydrocarbon group having 1 to 20 carbon atoms,  $\text{CH}_2\text{OH}$ ,~~  $\text{-CONH}_2$ ,  $\text{-CF=CF}_2$ , a hydrocarbon group having 1 to 20 carbon atoms or a perfluoroalkyl group having 1 to 20 carbon atoms.

5. (**Currently Amended**) The ~~fluorine-containing allyl ether polymer~~ homopolymer according to claim 4, which has a number average molecular weight of 1,000 to 1,000,000.

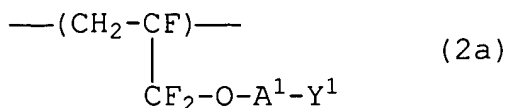
6. (**Previously Presented**) A fluorine-containing allyl ether copolymer consisting essentially of chains of at least two repeating units of the formula:



wherein A<sup>2</sup> is an organic group having 1 to 100 carbon atoms, wherein at least one repeating unit is a repeating unit of the formula:



wherein A is alkyl or fluoroalkyl groups having 1 to 50 carbon atoms, alkenyl or fluoroalkenyl groups having 2 to 50 carbon atoms, alkynyl or fluoroalkynyl groups having 2 to 50 carbon atoms, alkyl or fluoroalkyl groups having an ether bond and 1 to 60 carbon atoms, alkenyl or fluoroalkenyl groups having an ether bond and 2 to 60 carbon atoms, alkynyl or fluoroalkynyl groups having an ether bond and 2 to 60 carbon atoms, aryl or fluoroaryl groups having 4 to 30 carbon atoms, and at least one repeating unit is a repeating unit of the formula:

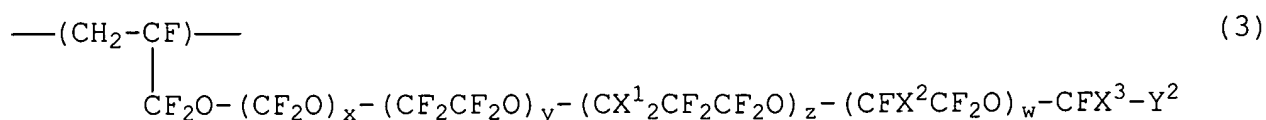


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wherein A<sup>1</sup> is a divalent organic group having 1 to 60 carbon atoms, and Y<sup>1</sup> is -CH<sub>2</sub>OH, -COOH, -COOR<sup>1</sup> in which R<sup>1</sup> is a hydrocarbon group having 1 to

20 carbon atoms, 
$$-\text{CON} \begin{matrix} \nearrow \text{R}^2 \\ \searrow \text{R}^3 \end{matrix}$$
 in which R<sup>2</sup> and R<sup>3</sup> are the same or different and a hydrogen atom or a hydrocarbon group having 1 to 20 carbon atoms, -O-CF=CF<sub>2</sub>, -OCO-CZ<sup>3</sup>=CZ<sup>1</sup>Z<sup>2</sup> in which Z<sup>1</sup> and Z<sup>2</sup> are the same or different and a hydrogen atom or fluorine atom, and Z<sup>3</sup> is a hydrogen atom, a fluorine atom, a chlorine atom or a trifluoromethyl group, an epoxy group, a glycidyl group, a cyano group, a sulfonic acid group or a -SO<sub>3</sub>R' in which R' is a monovalent organic group.

7. (**Previously Presented**) The fluorine-containing allyl ether polymer according to claim 6, wherein at least one of the repeating units is a repeating unit of the formula:



wherein X<sup>1</sup> is a hydrogen atom, a fluorine atom or a chlorine atom, X<sup>2</sup> is a hydrogen atom, a chlorine atom, a methyl group or a trifluoromethyl group, X<sup>3</sup> is a hydrogen atom, a fluorine atom, a chlorine atom or a trifluoromethyl group, x, y, z and w are the same or different and a number of 0 to 20 provided that the sum of x, y, z and w is from 1 to 20, and Y<sup>2</sup> is -COOH, -COOR<sup>4</sup> in which R<sup>4</sup> is a hydrocarbon group having 1

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to 20 carbon atoms,  $-\text{CH}_2\text{OH}$ ,  $-\text{CON} \begin{array}{l} \text{R}^5 \\ \text{R}^6 \end{array}$  in which  $\text{R}^5$  and  $\text{R}^6$  are the same or different and a hydrogen atom or a hydrocarbon group having 1 to 20 carbon atoms,  $-\text{O}-\text{CF}=\text{CF}_2$ , or  $-\text{OCO}-\text{CZ}^6=\text{CZ}^4\text{Z}^5$  in which  $\text{Z}^4$  and  $\text{Z}^5$  are the same or different and a hydrogen atom or a fluorine atom, and  $\text{Z}^6$  is a hydrogen atom, a fluorine atom, a chlorine atom or a trifluoromethyl group.

8. (**Previously Presented**) The fluorine-containing allyl ether polymer according to claim 6, wherein  $\text{A}^1$  in the formula (2a) is a fluoroalkylene group having 1 to 60 carbon atoms or a fluoroalkylene group having an ether bond and 1 to 60 carbon atoms.